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AUTHOR	Flott, Nancy
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ABSTRACT

Operating in a pilot region, Project Communicate established a comprehensive educational information system to support the adoption of innovative instructional practices in classrooms. It provided field consultants, individualized information service and information processing units in the state education agency (SEA). It provided for two major changes from the previous year; (1) a system of local linkers replaced the extension agent; and (2) computer searches were reduced by the use of curriculum guide catalogs. A shift in Fiscal Year 1975 from federal to state and local funding necessitated a regional expansion to the remaining 2/3 of the state and to educational agencies other than SEA. Computerized information search and retrieval capacities expanded to the existing staff in institutions of higher education and one educational cooperative under contracts from the Kansas State Department of Education. The Kansas Educational Dissemination Diffusion System was established to provide "practices/programs/processes" from an extensive resource system supported by Title IV, Part "C." (DAG)

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KANSAS/PROJECT COMMUNICATE - REGIONAL EXPANSION

Under the Provisions of Federal Legislation
Governing the Continuation Of
A State Information Dissemination Linkage Project
(National Institute of Education)
Grant Number NIE-G-75-0015
June 30, 1975 to June 30, 1976

Ms. Nancy Flott, Director
Kansas Educational Dissemination/Diffusion System
KEDDS Resource Center
Kansas State Department of Education
120 East 10th Street
Topeka, Kansas 66612

July 15, 1976

IR004280

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KANSAS/PROJECT COMMUNICATE STAFF

Developmental Phase (FY 73)

Dr. Richard Herlig, project director
Mrs. Bonnie Campbell, information specialist
Mrs. Maxine Fitzgerald, information writer
Dr. Jayanne Angell, rural extension agent
Mr. James Spence, urban extension agent

Transition Phase (FY 74)

Dr. Richard Herlig, project director
Dr. Jayanne Angell, training specialist
Mrs. Nancy Flott, information specialist
Mrs. Maxine Fitzgerald, information writer

Implementation Phase (FY 75)

Dr. Richard Herlig, project director
Mrs. Nancy Flott, information specialist

Regional Expansion Phase (FY 76)

Dr. Richard Herlig, project director
Mrs. Nancy Flott, information specialist

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CHAPTER I. KANSAS/PROJECT COMMUNICATE - A SUMMARY

DEVELOPMENTAL PHASE

Project Communicate was part of a regional effort to establish a comprehensive educational information system that would support the adoption of innovative instructional practices in Kansas classrooms. The project was to function within a pilot region whose characteristics would be generalizable to comparable districts elsewhere in Kansas, and to other regions comprising the Six Midwestern States Consortium (Missouri, Nebraska, Iowa, North Dakota, South Dakota, and Kansas). Project Communicate embraced the following operational objectives:

1. To provide field consultant(s) who will solicit and entertain requests for information from administrators, teachers and other personnel involved in the management, planning and operation of schools and classrooms;
2. To provide individualized information services, covering a wide range of subject areas, to both pilot region schools and SEA personnel.
3. To establish and maintain centralized information processing units in the state education agency (SEA);
4. To establish one operational pilot region with a supporting field consultant during the first twelve months of service, with a second field agent to be added during the last six months of project activity.

The pilot area consisted of 12 matched school districts of various sizes and at different levels of information saturation. Level IV districts had the services of a full-time educational extension agent to negotiate search requests and supply technical assistance. Level III districts had part-time

extension agents who attempted to provide the same service as Level IV. Level II districts had no extension agent assigned, but a project staff member presented a slide/tape show and explained Project services to district personnel. Level I districts had no personal contact with the Project but did receive a brochure which provided basic information about project services.

The objectives set forth were met and reported with the complete findings of the developmental phase of the Project. This report[1] is available from the Kansas State Department of Education. Some of these same data were subjected to more sophisticated statistical analysis[2] and did show significantly higher adoption and information utilization where an extension agent was active.

TRANSITION PHASE

The National Institute of Education did provide funds for FY '74. However, the educational extension agent was not funded and the RFP stated that funding would terminate at the end of the grant period.

The proposal submitted by the Kansas State Department of Education (KSDE) provided for two major changes from the previous year; (1) a system of local linkers to replace the extension agent; and (2) printed catalogs of curriculum guides to eliminate approximately half of the computer searches.

The Operational Objectives are stated below:

1. To maintain existing services in pilot region schools to the fullest extent possible. (Emphasis, however, shifted to the Identification and training of local linkers in Level I and II districts);

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1 Herlig, Richard K. An Interim Report on a Program to Establish a Comprehensive Educational Information System in Kansas. Topeka, Ks.: Kansas State Department of Education, 1973.

2 Herlig, Richard K. The Role of the Educational Extension Agent in Information Utilization. Topeka, Ks.: Kansas State Department of Education, 1973.

2. To support the development and utilization of educational information systems in Kansas urban schools;
3. To expand existing information services beyond the original pilot region to new rural districts through the distribution of a "package of information services";
4. To selectively disseminate information about the full range of project services via a monthly newsletter;
5. To train selected KSDE staff for the full utilization of information system services, and to function as information linkers within their respective operational divisions;
6. To fully operationalize all procedures necessary for the financial conversion of project activities from federal to state revenue sources.

The objectives set forth were met. However, objective 5 (KSDE staff) was weak.

Analysis of the data seemed to indicate the local linker concept was much less effective than the extension agent in information utilization. The complete findings of this phase of the Project are available from the Kansas State Department of Education.

The decision to maintain the level of service of the previous year necessitated seeking some state monies and asking for legislation (Kansas House Bill 2021) to allow contracting with LEA's on a fee basis. Financing through Title V was considered, but the approach selected allowed the Project to expand beyond the capabilities of Title V monies available.

STATE/LOCAL FUNDING PHASE

The strategy was to merge the Project with the ongoing state-funded Information Services section to form a new Information Services and Retrieval section. The retrieval portion (former Project Communicate) was financed with

$20,000 state monies and with $55,000 LEA contracts. Contracts were offered in the same amounts, $500, $1,000, or $1,500, as the grants of the previous year. The main difference was that financing was local and not federal. The operational objectives are stated below:

1. To obtain contracts with LEA's to provide money to maintain the program;
2. To support the utilization of pertinent educational information in program development and decision making;
3. To provide regional workshops to train local linkers for LEA's on contract;
4. To continue development of the Kansas Information Diffusion System (KIDS);
5. To submit Kansas material to the national ERIC collection.

The Project had on contract 95 school districts, 14 colleges and universities, 5 adult education centers, and the Kansas National Education Association...or about one-third of the state's educators. Table 1 summarizes project activities for FY 73 thru FY 75.

TABLE I
KANSAS/PROJECT COMMUNICATE
Review of Developmental and Transition Stage

YEAR	FY 73	FY 74	FY 75
ACTIVITY	Developmental Stage (field agent)	Developmental Stage (local linker)	HB 2021 fee fund for Information Services
SERVICE AREA	13 USD's	35 USD's	115 LEA's
FUNDS	$156,000 federal	$90,000 federal	$20,000 State[1] $55,000 Local
KSDE ROLE	• Develop computer program and information base • Examine roles of information dissemination • Evaluate objectives	• Expand information service to 31 rural and 4 urban USD's • Instruct local linkers in information utilization • Furnish Project newsletter to schools • Evaluate objectives	• Provide literature searches • Provide documents and Journal articles • Conduct regional workshops on information utilization • Evaluate objectives

[1] State Treasury

CHAPTER II. KANSAS/PROJECT COMMUNICATE - REGIONAL EXPANSION

Assuming that most of the LEA's on contract during FY '75 would want to continue receiving computerized information searches in FY '76, expansion beyond one-third of the state's educators was difficult. Even though the project seemed self-sufficient, LEA contract monies had to be incorporated into the SEA budget. A way had to be found within these limitations to provide additional information services to more educators.

The two-thirds of the state not receiving project services in FY '75 included 214 Unified School Districts, 23 Junior Colleges, 14 Area Vocational Technical Schools, 16 Private Liberal Arts Colleges, plus various private educational organizations.

Statement of the Problem

Within the framework of the general problem stated above, the concern of this proposal was to attempt to find a method to expand services to more educators in the state within the existing constraints and continue to build this segment of a self-maintaining system for linking outcomes of the R/D community to the schools of Kansas. Major direct involvement by education agencies other than the SEA was necessary to bring the system to state-wide operational status.

The Kansas SEA had conducted state-wide needs assessments, and had established goals to meet these needs. A recent redefining of goals[3] from the commissioner stated, "It is the goal of the Kansas State Department of Education to serve as a resource for LEA's to gain specific information on any facet of education of current priority to the LEA. This is an on-going goal".

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3 Goals of the Kansas State Department of Education, 11 March 75.

Within the context of the problem statement and the goal stated above, the main objective of this proposal was to expand the computerized information search capability to regional centers throughout the state. This would enhance the SEA dissemination effort to establish a self-maintaining diffusion system.

Results Expected

The project proposed to expand computer searching capability to eight centers in the state, thereby, increasing the number of persons with logic writing skills from 2 to approximately 35. Therefore, the clientele that had ready access to computerized information retrieval was greatly increased in number and scope (education students to university professors). However, equally as important, ownership in this segment of a self-maintaining diffusion system would be brought closer to these regional centers.

The main objectives of the plan were:

1.0 Convince decision makers at potential regional centers to contract with KSDE for computerized information retrieval;

2.0 System implementation of ERIC-TWX interface for state IBM 370/155 computer;

3.0 Train staff in regional centers to search RIE, CIJE, and AIM/ARM files in batch mode;

4.0 Train staff in regional centers and KSDE to search on-line;

5.0 Convince decision makers in regional centers that they should provide information retrieval labor for LEA's in their area;

6.0 Program monitoring and accounting for service contracts.

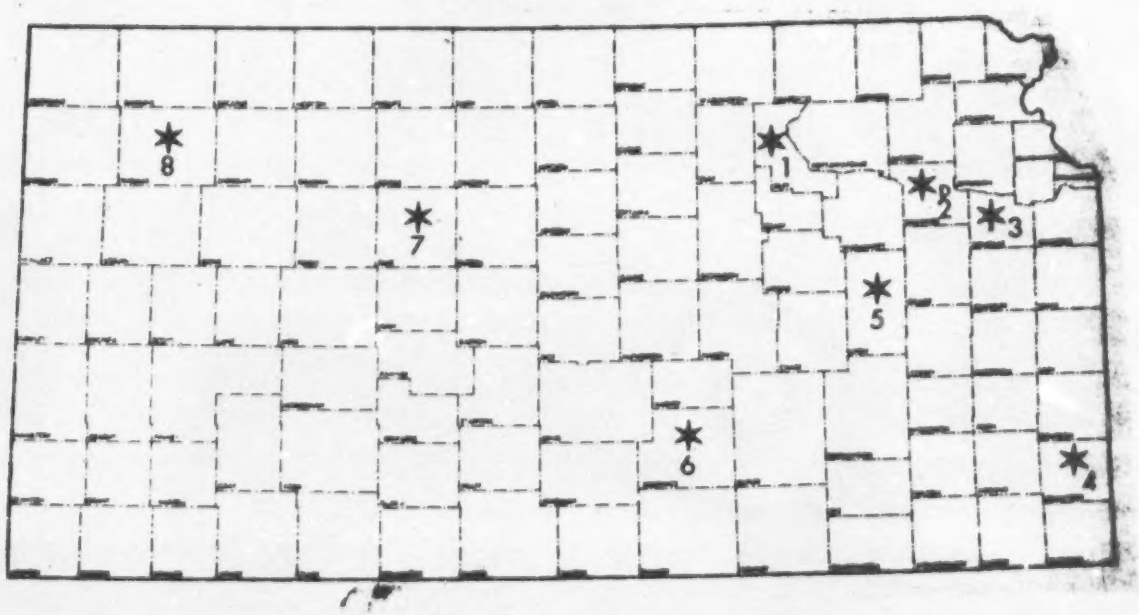
Approach

Kansas has no intermediate units or boards of cooperative educational service. Therefore, this plan to expand computer searching capacity focused on existing staff in institutions of higher education and one educational cooperative. The KSDE had contracts with all of these centers, and had provided them with computerized information retrieval service during FY '75. These centers had many assets, including extensive journal holdings, ERIC microfiche collections, TWX teletype terminals, and most important, staff that could be trained in computer search techniques.

Geographic Location

The regional centers were already established institutions of higher education and educational cooperatives and had a "natural" service area. The map below shows these centers concentrated, as the general population, toward the eastern part of the state.

INFORMATION RETRIEVAL CENTERS



EVALUATION

Each objective in this proposal is evaluated below and reported in the following format:

1. Re-Statement of the objective
2. Operability of the objective
3. Summative evaluation
4. Conclusions
5. Recommendations

1.0 CONVINCE DECISION MAKERS AT POTENTIAL REGIONAL CENTERS TO CONTRACT WITH KSDE FOR COMPUTERIZED INFORMATION RETRIEVAL.

--The plan was to offer matching funds (up to $1,500 each center) if the center provided personnel to learn to submit their own search logic. Therefore, they received twice as many searches for the same commitment and, also, as the system was expanded to include on-line retrieval capability, many files in addition to ERIC could be accessed.

Operability of Objective

This objective was very realistic and provided the basis for the regional information retrieval concept. The directors of the proposed regional centers accepted the idea and their staff seemed enthusiastic about learning the computerized information skills.

Summative Evaluation

The objective was met as all centers cooperated with the KSDE and committed funds to match project monies. Time was released for at least three library staff members to attend training seminars and write search logic.

Conclusions

Decision makers and librarians in institutions of higher education realize that skills in computerized information retrieval are essential and are willing to release their staff members for training as well as investing money for matching funds for searches for their clients.

Recommendations

All centers should not have received the same amount in matching funds. We now realize that institutions differ in size and information needs that are generated by their constituents.

Emporia State College was considered one center. However, this IHE includes the School of Library Science for the state. The library and library school are housed in the same building, but under different administrations and should have been considered two separate units with matching funds available for both.

2.0 SYSTEM IMPLEMENTATION OF ERIC-TWX INTERFACE FOR STATE IBM 370/155 COMPUTER.

(Six of the eight centers have existing TWX terminals that maintain communication for an interlibrary loan system.)

--The plan was to lease TWX Terminals for the KSDE and two centers, and write a computer program to interface the TWX units with the state IBM 370/155 computer. This system would allow a center to key the logic for a search at their location, transmit it via TWX and punch a tape at KSDE, be accumulated and submitted to the computer in batch mode. This would allow less expensive batch searching from several locations.

Operability of the Objective

Considering the existing TWX network in the regional centers, the objective seemed realistic.

TWX teletype units were leased for the KSDE, and two centers. Therefore, all centers could communicate with each other and submit logic statements to KSDE.

Summative Evaluation

The objective, as stated, was not met. The data processing section of the SEA changed the I/O system to the state IBM 370/155 computer. The new system was more sophisticated and gave the project much more flexibility,

i.e. the addition of data storage on disk inhouse. Searches could be entered on a terminal in the project office, stored in the system, and then submitted to the computer in batch mode. This eliminated the need for writing the interface program for the rather slow TWX input.

Conclusions

The ability to "intercept" the logic statements written by students before the statements are submitted to the computer is a necessary step. However, the TWX units are extremely slow and the cost factor for line charges must be considered.

Recommendations

The system would benefit by using more sophisticated terminals that could communicate intrastate and also provide access to other data bases on-line.

3.0 TRAIN STAFF IN REGIONAL CENTERS TO SEARCH RIE, CIJE, AND AIM/ARM FILES IN BATCH MODE.

--The plan is to provide three regional workshops to train personnel in the centers to write computer logic to search the RIE, CIJE, and AIM/ARM files in batch mode.

--Logic statements from the centers will be received on regular copy and punched tape. The logic will be screened by the KSDE information specialist and feedback can be provided via the TWX. The logic statements on the tape can be accumulated and submitted to the computer via the KSDE-TWX, and search results will be submitted to the originating unit.

--The plan is to have the KSDE information specialist make six on-site visitations to the centers to enhance the training process.

Operability of the Objective

This was the main objective of the project. The KSDE search program for the ERIC tapes offers an inexpensive way to train people in computerized information retrieval.

Summative Evaluation

The objective was met and all six follow-up visits to each center have been made. Additional students were recruited from the larger LEAs in the state, Title III, 306 facilitators, and the Nebraska SEA, to take part in the training seminars. College credit was offered to those enrolled in the "batch" and on-line workshops.

Conclusions

A Learning Activity Packet (LAP)[1] for performing search strategy on the ERIC files was developed to be used to train the staffs in regional centers to search RIE, CIJE, and AIM/ARM files in batch mode. In order to test the LAP, the groups at the three regional workshops were divided and one half used the LAP and the other half was in a workshop-type situation.

There was no significant difference in the skills of the two groups when performing search strategy on three sample searches. (See Appendix A for abstract of study).

The LAP has been utilized on three occasions to train replacements and additions to the existing retrieval staff.

Recommendations

Replicate the LAP to check significance in other geographical areas and different audiences.

The LAP could be modified to be used as a preliminary training to most any search system.

Opportunity to receive graduate in Library Science credit enhanced status of workshops.

[1]Flott, Nancy. The Development of a Learning Activity Packet for Search Strategy to Retrieve Computerized Information. Unp. dissertation. Kansas State University, 1976.

4.0 TRAIN STAFF IN REGIONAL CENTERS AND KSDE TO SEARCH ON-LINE.

(The TWX unit will provide access to on-line systems, thus, providing the best of both worlds, i.e., the inexpensive batch mode for more mundane searches of ERIC files and on-line capability for more complex ERIC searches and access to Psychological Abstracts and other data bases.)

--The plan was to have a workshop in Topeka and bring in the 35 people from all of the centers (and SEA). The workshop featured national consultants and provided hands-on access from the KSDE-TWX Terminal.

Operability of Objective

This objective was met at an on-line workshop in November, 1975. The workshop was held in Emporia instead of Topeka since the Library School at Emporia Kansas State College was offering graduate credit for it. Three national consultants conducted the workshops and three terminals were available to the participants for hands-on access. Data bases other than ERIC were demonstrated so that staffs at the IHE could see the value of their skills as applied to the needs of the entire student body and faculty of their institutions.

Summative Evaluation

This objective was met and the workshop evaluated by an outside contractor. (See Appendix B)

Conclusions

National consultants were from clearinghouses, IHE and State Departments, utilizing three different viewpoints. Use of University personnel reinforced the need for IHE librarians to acquire skills in computerized retrieval of information.

There was opportunity for the Clearinghouse Representative to interact with ERIC users.

The TWX teletype machines seemed slow and cumbersome after training on computer terminals.

Recommendations

"Hands on" access to terminals is well received by participants. Outside consultants are effective and add status to workshops.

Clearinghouse staffs seem anxious to participate in workshops such as this one involving their users.

5.0 CONVINCE DECISION MAKERS IN REGIONAL CENTERS THAT THEY SHOULD PROVIDE INFORMATION RETRIEVAL LABOR FOR LEAS IN THEIR AREA (LEA PAYS COMPUTER COSTS).

(This objective is essential to the building of a self-maintaining diffusion system. Part of the groundwork has been laid. Most of the ninety-five USDs which were on contract to receive computerized information in FY '75, surround these proposed centers and are considered their "natural" service area).

--The plan is to use declining enrollments in the colleges of education at these centers to stress more "service" orientation. One service they could render is to submit search logic for LEAs.

Operability of the Objective

This objective is an intricate part of the overall state dissemination plan. The Kansas Educational Dissemination/Diffusion System demands more people trained in computerized information retrieval than the SEA can supply.

Summative Evaluation

At this writing, it is too early to ascertain the full extent of the above objective. The KSDE staff has been assured by directors and searchers in the centers that it would be to their advantage to offer this service to LEAs in their area. However, more time is needed to realize the full extent of this effort.

Conclusions

At this writing, it is too early to ascertain the full extent of this objective.

Recommendations

Offer continuous involvement of center directors, retrieval staff, field consultants and clients, to reinforce the necessary segments of the total dissemination system.

6.0 PROGRAM MONITORING AND ACCOUNTING FOR SERVICE CONTRACTS.

—The plan is to have the entire project continually monitored by the director.

—The plan is to go to an open contract and bill LEAs monthly for service used instead of deducting cost from a contracted amount. This procedure will demand a more sophisticated accounting method.

Operability of the Objective

This objective was necessary. However, the monitoring was a pleasure, as the directors in the centers and the students of computerized information retrieval were a conscientious group. They seemed to enjoy their newly acquired skills.

Summative Evaluation

The objective was met. The director took an active role in the complete project, including the training component. Therefore, monitoring was continuous.

The second part of this objective was also met. However, the system designed was manual and consumed more time than anticipated.

Conclusions

The accounting system designed was more complicated than sophisticated. The accounting of different centers with matching funds and some individual accounts without matching funds was difficult, at best.

Recommendations

A computerized accounting system would be beneficial, and probably cost effective.

Centers could be encouraged to allocate funds before searches were run and set up a drawing account at the SEA. Accounting would be much easier.

7.0 PROVIDE VISITATIONS AND ORIENTATION SERVICE TO REPRESENTATIVES OF OTHER STATE EDUCATION AGENCIES.

--This objective was a product of the negotiation of the grant with NIE. Materials were prepared that would give the visiting SEA representative an overview of Kansas/Project Communicate.

Operability of the Objective

The objective was realistic. Practically all SEAs had NIE monies to travel to different projects to obtain first hand data concerning dissemination. I assume this effort was to aid their planning a dissemination system in their own agency.

Summative Evaluation

From the KSDE perspective, the objective was met. Material packets were prepared and staff time was allocated for prospective visitors.

Conclusions

The project was prepared for twenty "person day" visits. However, only five SEAs were represented by actual visitation to Kansas/Project Communicate.

Recommendations

None.

CHAPTER III. KANSAS EDUCATIONAL DISSEMINATION/DIFFUSION SYSTEM

The Kansas SEA has conducted a state-wide needs assessment and has a plan to meet these needs. One Kansas State Department of Education goal is "to serve as a resource for LEA's to gain specific information about any facet of education of current priority to the LEA. This is an on-going goal." In a more recent action the State Board passed the following resolution: "the (Kansas) State Board of Education will promote the principle of consultation to schools as the most important function of the department."

The SEA is well aware of the recent (November, 1975) resolution on dissemination passed by the full council of the CCSSO, which states:

> Dissemination is a major state education agency function. The Council urges each chief state school officer to promote a coordinated, integrated dissemination system within each agency ...

Consistent with the general state objectives for dissemination, the basic purpose of the Kansas Educational Dissemination/Diffusion System addresses itself to the dissemination needs of the state. The goals and objectives for the system are listed below:

Goal 1: To provide information and incentives to encourage USDs to select programs and practices based on valid needs assessment and consideration of available alternatives.

Goal 2: To increase the comprehensiveness of the information network and the resource network.

Goal 3: To identify, train and support a cadre of field consultants to serve as linkers between the Resource System and the Client System.

Goal 4: To provide a management system for the KEDDS.

The educational and dissemination needs addressed by the system are:

1. Fragmentation of the various dissemination activities.
2. Lack of planning assistance to LEAs.
3. Low use of district-wide accreditation legislation.

Through coordinating efforts, the KEDDS staff will provide a comprehensive dissemination program capable of serving categorical program needs and providing practices/programs/processes from an extensive resource system.

As indicated by the KEDDS brochure, (attached) in the Kansas State Department, former Project Communicate and Project Link have merged, combining the skills of trained facilitators and information specialists tied together and supported by Title IV, Part "C".

APPENDICES

The Development of a Learning Activity Packet For Search Strategy to Retrieve Computerized Information

by

Nancy Fate Flott

B.S., Emporia Kansas State College, 1954
M.S., Emporia Kansas State College, 1962

An Abstract of a Dissertation

submitted in partial fulfillment of the

requirements for the degree

Doctor of Philosophy

College of Education

Department of Adult and Occupational Education

Kansas State University

Manhattan, Kansas

1976

The purpose of this study was to develop and test a Learning Activity Packet for search strategy to retrieve computerized information.

The Learning Activity Packet (LAP) was designed to be used with the media kit, "ERIC, What It Is; How to Use It," produced at ERIC/CHESS. The individualized learning package deals with the mechanics of information retrieval of the ERIC files, using the RIC program developed by Ed Krahmer of North Dakota. A paper on search negotiation is included with the LAP.

The LAP was used at three seminars held in Kansas in the Fall of 1975, sponsored by Project Communicate, Kansas State Department of Education. At the seminars, the participants were divided into two groups by paired random sampling. The 32 participants included in the study were higher education librarians, education specialists, and four members of the State Library staff. One group was in a workshop-type setting; the other group used the LAP. At the close of the session, all participants performed the search strategy for identical searches. These searches were scored by the investigator, using an evaluation form with a Likert-type scale developed by a panel of three experienced "searchers".

Scores on search strategies performed by the control group (workshop participants) were compared with those of the experimental group (the LAP group).

The *t*-test for independent samples was used to evaluate the cumulative scores for each group. A *t*-test statistic was then computed for the mean score for each group in the study and for their average scores on each criterion.

The *t*-test statistic when compared with the tabled value, indicated that there was no significant difference at the .05 level between the two groups. It further revealed no significant difference at the .05 level

between the two groups based on their mean scores for the three search strategies.

When comparing the t-test statistic with the table value on each criterion, there was a significant difference at the .05 level on two items. The comparison showed that the workshop group was significantly better, at the .05 level, when identifying key concepts used as variables, and applying appropriate punctuation necessary for the search program used. On the other four criterion, there was no significant difference at the .05 level.

A subjective evaluation form was included in each LAP and each user was asked to rate the packet on five points: (1) Format, (2) Language, (3) Style, (4) Clarity, (5) Usefulness. Mean scores of the 16 LAP users on each point evaluated were all above the mid-point.

The major conclusions drawn as a result of the review of selected literature and analysis of the data collected were:

1. There is a shortage of materials that can be used to train researchers in computerized retrieval of information.
2. A Learning Activity Packet (LAP) is an acceptable tool for teaching search strategy for computerized retrieval of information, and the LAP developed by the investigator is adequate for that purpose.
3. The majority of users of the LAP would recommend it. As a result of this study, the following major recommendations were made:
    a. The LAP can be used in teaching search strategy for retrieval of computerized information; however, further tests and revisions of the LAP are needed.
    b. Additional LAPS should be developed to teach other concepts in information science.